

ABSTRACT OF THE DISCLOSURE

The invention provides semiconductor processing methods of depositing  $\text{SiO}_2$  on a substrate. In a preferred aspect, the invention provides methods of reducing the formation of undesired reaction intermediates in a chemical vapor deposition (CVD) decomposition reaction. In one implementation, the method is performed by feeding at least one of  $\text{H}_2\text{O}$  and  $\text{H}_2\text{O}_2$  into a reactor with an organic silicon precursor. For example, in one exemplary implementation, such components are, in gaseous form, fed separately into the reactor. In another exemplary implementation, such components are combined in liquid form prior to introduction into the reactor, and thereafter rendered into a gaseous form for provision into the reactor. The invention can be practiced with or in both hot wall and cold wall CVD systems.